



Department for  
Business, Energy  
& Industrial Strategy

**Department for Business,  
Energy & Industrial Strategy**

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[www.gov.uk/beis](http://www.gov.uk/beis)

18 June 2020

The Authority (Ofgem), the SEC Panel, SEC Parties and  
other interested parties

Dear Colleague,

**Smart Metering Implementation Programme: Government response to 6 April  
2020 consultation and outstanding matters from 14 January 2020 consultation**

On 6 April 2020, government issued a consultation<sup>1</sup> on whether the Data Communications Company (DCC) should be required to provide an enrolment service for first generation (SMETS1) EDM smart meters and on a number of other topics related to smart meter rollout that would require amendments to the standard conditions of gas and electricity supply licences, the DCC licence, the Smart Energy Code (SEC), the Balancing and Settlement Code (BSC) and the Uniform Network Code (UNC).

We received 15 responses to the consultation, which closed on 11 May 2020. We have considered the stakeholder views and the document at Annex A constitutes the government response. The legal text in Annex B has been laid in Parliament today in line with the procedure under Section 89 of the Energy Act 2008.

The consultation response at Annex A also concludes on outstanding issues from our 14 January 2020 consultation<sup>2</sup>. In particular, it includes the introduction of Device-Level Technical Specification Versioning and the introduction of an Incompatibility Matrix.

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<sup>1</sup> <https://smartenergycodecompany.co.uk/latest-news/beis-consultation-on-the-dccs-provision-of-an-enrolment-service-for-edmi-smets1-meters-changes-to-dcc-electricity-and-gas-supply-licence-conditions-and-changes-to-the-sec-bscs-and-unc/>

<sup>2</sup> <https://smartenergycodecompany.co.uk/latest-news/consultation-on-changes-to-standard-conditions-of-gas-and-electricity-supply-licenses-conditions-of-the-dcc-licence-the-sec-the-unc-and-the-mra/>

Yours faithfully,



**Duncan Stone**

Deputy Director & Head of Delivery  
Smart Metering Implementation Programme

**List of Annexes to this letter**

| <b>Annex A</b> | Consultation response  |
|----------------|--|
| <b>Annex B</b> | Legal text [attached separately] <ul style="list-style-type: none"><li>- DCC Licence</li><li>- SEC Section A</li><li>- SEC Section F</li><li>- SEC Section G</li><li>- SEC Section H</li><li>- SEC Section K</li><li>- SEC Section L</li><li>- SEC Section N</li><li>- SEC Section T</li><li>- SEC Section X</li><li>- SEC Section Z</li><li>- Smart Metering Electricity Supply Licence</li><li>- Smart Metering Gas Supply Licence</li></ul> |

# Annex A: Government response

## Contents

|   |           |
|---|-----------|
| <b>1. General Information.....</b>  | <b>4</b>  |
| <b>2. Introduction .....</b>  | <b>5</b>  |
| <b>3. Analysis of Responses and Government Conclusions .....</b>  | <b>6</b>  |
| <b>3.1 Conclusions on January 2020 Licence and Code Proposals: Device Level<br/>Versioning and Incompatibility Matrix.....</b>  | <b>6</b>  |
| <b>3.2: EDM1 SMETS1 Meter Cohort Consultation Response .....</b>  | <b>8</b>  |
| <b>3.3 SEC amendments to obligations on the DCC in relation to Telefonica as a SMETS1<br/>Communications Service Provider (CSP).....</b>  | <b>14</b> |
| <b>3.4 Licence and SEC amendments to support standalone auxiliary proportional<br/>controllers (as well as associated changes relating to Additional Meters within the<br/>smart meter arrangements).....</b> | <b>17</b> |
| <b>3.5 Matters relating to inclusion of registration data identifiers within XML certificates<br/>.....</b>   | <b>26</b> |
| <b>3.6 Changes to Alt HAN charging arrangements .....</b>   | <b>33</b> |
| <b>3.7: Minor Typographical Correction .....</b>  | <b>35</b> |
| <b>3.8: Other Matters.....</b>  | <b>35</b> |
| <b>Appendix: EDM1 SMETS1 meter enrolment Cost-Benefit Analysis .....</b>  | <b>37</b> |

# **1. General Information**

## **Purpose**

Following consideration of responses to the smart metering consultations issued in January 2020 and April 2020, this government response provides conclusions on the changes proposed. The final legal text has also been laid before Parliament on 18 June 2020 in line with procedure under Section 89 of the Energy Act 2008.

## **Issued**

18 June 2020

## **Enquiries**

Smartmetering@beis.gov.uk

## **Territorial extent**

This government response applies to the gas and electricity markets in Great Britain.

## **Legal drafting**

The legal drafting should be considered definitive in the event that there is any inconsistency between it and the explanatory text.

## 2. Introduction

### Background

1. Smart meters are replacing old gas and electricity meters across Great Britain as part of an essential national upgrade that will make our energy system cheaper, cleaner, and more efficient. Millions of households are already benefitting from smart meters, which will enable technologies such as electric vehicles, smart tariffs, and microgeneration to be efficiently and effectively integrated with renewable energy sources. Without smart metering, modelling for the Committee on Climate Change estimates the costs of delivering net zero emissions by 2050 could be up to £16 billion higher each year.
2. On 14 January and 6 April 2020, two separate consultations were issued proposing regulatory amendments on topics related to the implementation of the Smart Metering Implementation Programme. In the April publication, views were also sought on whether the DCC should be required to provide an enrolment service for first generation (SMETS1) EDM smart meters. This document provides the government response to the April 2020 consultation, as well as to residual items from the January consultation on Device-Level Technical Specification Versioning and the introduction of an Incompatibility Matrix.
3. A total of 15 written consultation responses were received to the 6 April 2020 consultation from the following organisations:

| Sector          | Organisation  |
|-----------------|---|
| Consumer Group  | Citizens Advice   |
| Energy Supplier | OVO Energy<br>EON/Npower<br>Shell<br>Scottish Power<br>Centrica<br>Yorkshire Energy |
| Trade Body      | Energy UK   |
| MOP/MAP         | Horizon<br>Northern Powergrid Metering Limited                                      |
| DNO             | Electricity North West<br>Western Power   |
| Other           | SEC Panel<br>DCC<br>Alt HAN Co  |

4. During the consultation period, BEIS conducted engagement activities with the administrators of the BSC, UNC, the SMKI Policy Management Authority (SMKI PMA), Technical and Business Design Group Sub-Group (TBDG), the Security Sub Committee (SSC), SEC Panel, and Alt HAN Co in considering the range of issues addressed by this consultation.

### **3. Analysis of Responses and Government Conclusions**

#### **3.1 Conclusions on January 2020 Licence and Code Proposals: Device Level Versioning and Incompatibility Matrix**

##### January 2020 Licence and Code Proposals

5. In our January 2020 consultation on Code and Licence amendments<sup>3</sup>, we explained that the SEC currently contains a number of “versions” of the Smart Metering Equipment Technical Specifications (SMETS) and that each version sets out the technical specification for a number of different smart metering Devices. Different versions of SMETS have different Installation Validity Periods (IVPs), Maintenance Validity Periods (MVPs) and different associated GBCS Applicability Periods for versions of the GB Companion Specification (GBCS). Ending the MVP of a version of SMETS would require energy suppliers to upgrade all devices complying with that version of SMETS to be compliant with a new version of SMETS that has a valid MVP. This represents a significant burden for Suppliers. BEIS therefore proposed changes to introduce the concept of individual device-specific technical specifications so that the IVP, MVP or GBCS Applicability Period can be set independently for each device type.
6. In addition to this, we suggested that the existing device-specific versioning matrix (“compatibility matrix”) for SMETS (the requirements for which being set out in Section F2.11 of the SEC) would become too complex should the device level versioning proposal be introduced. BEIS therefore proposed to modify the SEC to replace the requirement for the SEC Panel to produce a compatibility matrix with an obligation on the SEC Panel to produce an “incompatibility matrix”. BEIS believes this approach to be clearer as compatibility is the design norm between all Devices, whilst any incompatibility is less common.

##### Government Conclusion on January 2020 Licence and Code Proposals

7. Although most respondents supported the changes proposed in January, we recognised that some respondents would benefit from additional discussion of the proposals. We have since further engaged respondents through the Technical and Design Business Group (TBDG<sup>4</sup>), where we explained and refined proposals as well as shared additional details of how the Incompatibility Matrix would function.

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<sup>3</sup> <https://smartenergycodecompany.co.uk/latest-news/consultation-on-changes-to-standard-conditions-of-gas-and-electricity-supply-licenses-conditions-of-the-dcc-licence-the-sec-the-unc-and-the-mra/>

<sup>4</sup> A transitional industry forum that provides, amongst other things, technical advice to the Smart Metering Implementation Programme

8. Following this engagement, we conclude that we will proceed to implement device-level technical specification versioning and the adoption of an Incompatibility Matrix. These changes have been laid in Parliament on 18 June 2020, coming into effect around mid-September 2020, subject to Parliamentary procedure. We have also now issued a consultation inviting views on the Technical Specifications with Device-Level Versioning (DLV) applied, the accompanying Technical Specification Applicability Tables (TSAT), and the proposed Incompatibility Matrix<sup>5</sup>. These versions of the Technical Specifications and TSAT are planned to replace the existing Versions of SMETS once the Parliamentary procedure concludes. In finalising the drafting, we have retained a definition of “Smart Metering Equipment Technical Specifications (SMETS)” in Section A and provided an interpretation of this term in light of the DLV changes in Section A2.12.

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<sup>5</sup> <sup>5</sup> [https://smartenergycodecompany.co.uk/latest\\_news/](https://smartenergycodecompany.co.uk/latest_news/) - consultation not published at time of writing

## 3.2: EDMl SMETS1 Meter Cohort Consultation Response

### Summary of Issue and Proposals

9. Over 2018 and 2019, the Government concluded that DCC should be required to provide an enrolment service to meter sets representing over 99.5% of the SMETS1 market. These meter sets are Aclara, Honeywell Elster, Landis+Gyr, Itron and Secure. The decision on whether DCC should be required to stand up an enrolment service for these meter sets took into account the following criteria:
  - I. Whether a net societal benefit exists.
  - II. Whether there is an acceptable level of security for the end to end smart metering system.
  - III. The technical feasibility of delivering an enrolment service.
10. EDMl SMETS1 meters are electricity-only meters and represent less than 0.5% of the installed SMETS1 meter population.
11. The April 2020 consultation proposed that the DCC should not be required to provide SMETS1 services for EDMl SMETS1 meter set. The consultation explained that this proposal was broadly informed by:
  - Technical delivery confidence, where the consultation indicated that we had insufficient confidence in the feasibility of the proposed technical solution for the provision of a SMETS1 service largely due to the absence of specific technical support from EDMl.
  - Whether there was an acceptable level of security for the smart metering system. In the consultation, we stated that DCC did not have sufficient information from EDMl to provide a security risk assessment for the enrolment of the EDMl SMETS1 meter set.
  - A cost benefit assessment. In the consultation, we estimated that enrolling EDMl SMETS1 meters would provide a negative net present value (NPV) to society in the range of £-19 million to £-24 million under central assumptions, which would mean that enrolling EDMl SMETS1 meter set in the DCC network would cost more than replacing these meters with SMETS2 electricity meters.
12. The consultation also explained that we did not believe that the proposal would adversely impact consumers and that any negative impacts on individual industry parties arising from potential implications for existing contractual arrangements were outweighed by the wider public policy benefits.

### Summary of Responses

**Question 1: Do you agree that the DCC should not be required to offer SMETS1 services for the EDMl meter set?**



13. There were fourteen responses to this question. Twelve respondents agreed with the proposal, with one respondent disagreeing and one neither agreeing nor disagreeing. A summary of the main points made by one or more respondents to this question is as follows:

- It would not be in the common interest for the DCC to extend its enrolment service to include the EDMl meter cohort based on the cost benefit analysis.
- Providing an EDMl SMETS1 meter service would increase Distribution Network Operator (DNO) licence charges which is based on DCC costs and would contribute to customer bills, which in turn would not be in interest of customers.
- Early EDMl meters account for a small proportion of SMETS1 meters deployed in the market. DCC should not be required to offer SMETS1 services to the EDMl cohort if the costs of enrolling them exceed the benefit of enrolment and costs of replacement.
- The lack of a technically achievable solution would mean considerable time, effort and cost could be absorbed attempting to deliver a solution that would be nugatory by the time the end 2021 replacement duty deadline is reached.
- Although agreeing with the proposal, a respondent stated that the length of time to make a decision has impacted on the window for Energy Suppliers to implement a programme of replacement for these devices before the end of the end of 2021 when the replacement duty applies.
- One respondent disagreed with the proposal, stating that without the support of EDMl enrolling the meters is both expensive and impractical, however they considered that more influence could be exerted on EDMl.

**Question 2: Are there any other costs additional to those included in the cost benefit analysis in Annex B you believe should be considered?**

14. There were fourteen responses to this question with five respondents providing additional costs for consideration. As a summary of the main points made by one or more respondents:

- That energy supplier costs were an underestimate and that building capability to successfully interact with other meter combinations within the Initial Operating Capability (IOC) and Middle Operating Capability (MOC) cohorts result in additional costs (estimates were provided by one supplier).
- Whether contractual costs incurred by energy suppliers had been considered, as Meter Asset Providers (MAPs) may impose early replacement charges on gaining energy suppliers following a change in supplier event.
- Cost benefit analysis discounts the upfront costs paid by MAPs and does not consider lost revenue to MAPs.

- There are increases in costs to MAPs from the need to store meters removed prematurely.

**Question 3: Are there any other benefits additional to those included in the cost benefit analysis which you believe should be considered?**

15. The majority provided no additional benefits to those proposed in the cost benefit analysis with one respondent providing an additional benefit for consideration. In summary:

- There are benefits to the consumer of having a working smart meter regardless of type and this should be considered in determining the replacement date.

**Question 4: Are there any other factors or impacts that we should consider in arriving at our conclusion?**

16. There were fourteen responses to this question with six respondents providing additional factors for consideration. A summary of the main points made by one or more respondents to this question is as follows:

- The environmental impact of potentially requiring another site visit in the asset's lifetime does not appear to be included in the assessment, and whilst the net result of the analysis of this will probably be close to zero, the identification of this as a potential additional impact of this change should be included.
- One respondent considers that energy suppliers have not been complying with a regulatory requirement that churn agreements must be put in place between the new energy supplier and the meter asset provider within 6 months. With no churn agreement in place, there is no requirement for suppliers to pay a premature removal charge. The respondent believes that the proposal to not enrol EDM1 SMETS1 meters endorses this behaviour.
- The end-2021 replacement duty needs to be considered in light of the relatively short window in which to replace EDM1 SMETS1 devices and in light of COVID-19 that limits opportunities to install meters. One respondent stated that the duty needed to be re-considered to enable meters to stay on the wall for their economic life.

**Government Response**

17. Following consideration of the consultation responses, we conclude that the DCC should not be required to provide an enrolment service for the SMETS1 EDM1 meter set.
18. This follows confirmation from the DCC that EDM1 wishes to commercially focus on SMETS2 meters rather than SMETS1 meters, and that the DCC will not have the technical development support they would require to build and

implement a workable enrolment solution from a technical and security perspective (notwithstanding the negative cost-benefit analysis NPV). This in turn follows a number of discussions between DCC and EDMl about the SMETS1 enrolment solution since Summer 2018 in which DCC has pressed EDMl to support their enrolment analysis and on whether EDMl would plan a role in the enrolment of the meter set. It is the discretion of businesses not regulated under energy licences or codes on whether they wish to support the DCC SMETS1 migration and enrolment service. Our judgment of the technical viability of the solution as well as any confidence we can draw on security assurance for enrolment remains unchanged from our April 2020 consultation position.

19. Based on information provided by the consultation responses, we have updated energy supplier costs to include additional costs from enrolling the EDMl meter set and similarly costs related to meter volumes have been updated. The benefits of EDMl SMETS1 meters working in smart mode are already included within the CBA up until the point the meters are assumed to be replaced. As a result, the NPV has been updated to be in the range of -£20m to -£25m, under central assumptions, which means that enrolling EDMl SMETS1 meters in the DCC network would cost more than replacing meters with SMETS2 meters under the replacement duty. The updated cost benefit analysis is included in the **Appendix**.
20. We note concerns raised by one respondent who disagreed with the proposal. Our aim is to ensure interoperability for SMETS1 meters so that smart functionality is retained when a consumer switches energy supplier. In addition, our long-standing policy has been for all significant populations of SMETS1 meters to eventually be operated via the DCC to deliver this objective. Whilst we are ultimately disappointed to confirm that DCC should not be required to provide an enrolment service, albeit for a relatively limited percentage of the SMETS1 estate, we consider there to be no reasonable likelihood of success in DCC being able to bring the enrolment solution to fruition and certainly not one that could deliver a timely and cost effective solution in the best interests of wider public policy.
21. Following consideration of the consultation responses, our assessment remains that there would not be any significant adverse impacts of the proposal on vulnerable consumers. The replacement duty means energy suppliers must take all reasonable steps to replace any unenrolled SMETS1 meters with SMETS2 meters by the end of 2021. This ensures, subject to the energy supplier taking 'all reasonable steps', that the benefits of a SMETS2 service are made available to all consumers with EDMl SMETS1 meters, irrespective of their individual circumstances.

22. Similarly, the consultation responses provided no evidence to suggest material amendments were needed to the environmental impact of the proposal. Replacing a meter before the end of its working life will require an installation visit earlier than would have otherwise been required. We consider that for many of these households a visit may be required anyway to fit a smart gas SMETS2 meter. This will have an environmental impact, such as the carbon emissions from the installer visiting the property to replace the meter. However, as the installation visit would have occurred at the end of the meter's life anyway, the environmental impact of bringing forward the visit is likely to be negligible. Furthermore, a visit would be required in the enrolment scenario to install a gas smart meter in dual fuel households, so the environmental impact would be similar in both scenarios.
23. One respondent suggested there would be additional costs for disposal if meters are replaced before the end of their working life. We have added premature removal of a meter which may result in longer storage and associated costs as an area of uncertainty in the CBA which cannot be quantified due to the lack of data. However, even if optimism bias were added to the disposal cost it would not materially affect the cost of replacement.
24. We recognise that this proposal may have implications for existing contractual arrangements between energy suppliers that installed or use EDM1 SMETS1 meters and other industry parties, such as meter asset providers. We note that installing Energy Suppliers supported the proposal to not enrol EDM1 SMETS1 meters. We have concluded that any negative impacts on individual industry parties are outweighed by the wider public policy benefits of our proposed approach set out in this consultation response.
25. In line with the government's Green Book<sup>6</sup> the implications arising from existing contractual arrangements are considered economic transfers, which include costs (and lost revenue) to energy suppliers and other industry parties. Economic transfers are not considered part of Government cost benefit analysis. This is because they transfer purchasing power from one group to another and do not involve the consumption of resources. The CBA considers costs to society, however contractual implications are a cost to the donor and therefore do not make society better or worse off. We have however taken these impacts into account along with all the other information we received from the consultation in reaching our decision.
26. We note concerns expressed about licence conditions relating to Security Controls in relation to the Smart Metering System (LC46 in the Electricity Supply Licence and LC40 in the Gas Supplier Licence). This decision is based on the acceptable level of security to support the end to end smart

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<sup>6</sup> The Green Book: appraisal and evaluation in central government  
<https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

metering system rather than individual devices. We also note concerns about compliance in relation to Continuation of Arrangements on Change of Energy Supplier in relation to Smart Metering (LC50 in the Electricity Supply Licence and LC 44 the Gas Supply Licence). Ofgem is the regulator responsible for the enforcement of energy supplier licence conditions and is aware of these concerns.

27. Similarly, we note concerns expressed about the replacement duty. However, as acknowledged by many of the respondents raising these concerns the timing of the replacement duty is a separate decision to the SMETS1 EDMl enrolment decision which was the subject of this consultation. The end-2021 replacement duty is intended to ensure all consumers with smart meters benefit from an interoperable smart service (whether through SMETS2 meters or enrolled SMETS1 meters) by end 2021. The replacement duty applies to any unenrolled SMETS1 meters. It is subject to 'all reasonable steps' which provides energy suppliers some flexibility regarding their obligations, though we note this remains 18 months away and the volume of EDMl SMETS1 smart meters is low. We do not currently consider there to be evidence available which would justify a change to previous consultation conclusions on the timing of the replacement duty.

## **Conclusion**

28. In light of the consultation responses, we will not require the DCC to provide an enrolment service for the SMETS1 EDMl meter set. In particular, this is based on evidence that the costs of enrolling EDMl SMETS1 meter set in the DCC network would cost more than replacing these meters with SMETS2 meters and, in any event, we do not consider that an enrolment solution is feasible from a technical and security perspective within the regulatory timeframe available or beyond.

### 3.3 SEC amendments to obligations on the DCC in relation to Telefonica as a SMETS1 Communications Service Provider (CSP)

#### Summary of Issue and Proposals

29. Telefonica is a SMETS1 Communications Service Provider (SMETS1 CSP), meaning it provides the communications for a subset of SMETS1 meters by relaying messages between meters and the DCC.
30. As explained in our April 2020 consultation<sup>7</sup>, the DCC has adopted legacy CSP contracts from Smart Meter System Operators (SMSOs) that are not fully aligned with all aspects of the SEC's obligations. For Telefonica, the inconsistency relates specifically to Section G2.11 of the SEC, the notification of Major Security Incidents. The issue is that due to the distributive nature of the Telefonica SMETS1 CPS solution and the complex relationships between the various operating companies that comprise the Telefonica service, Telefonica is not able to agree to requirements to *promptly* notify the DCC of a major security incident to enable the DCC, in turn, to *promptly notify the Panel and Security Sub-Committee*.
31. To address this inconsistency and ensure DCC compliance, BEIS proposed to amend Section G2.11:

From:

*The DCC shall, on the occurrence of a Major Security Incident in relation to the DCC Total System, **promptly notify the Panel and the Security Sub-Committee.***

To:

*The DCC shall, on the occurrence of a Major Security Incident in relation to the DCC Total System:*

*a) promptly notify the Panel and Security Sub-Committee (unless paragraph (b) applies); or*

*b) where the Major Security Incident relates to that part of the DCC Total System which consists of any parts of the SMETS1 CSP System in respect of which Telefonica UK Limited is the DCC Service Provider, notify the Panel and the Security Sub-Committee **as soon as is reasonably practicable.***

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<sup>7</sup> <https://smartenergycodecompany.co.uk/latest-news/beis-consultation-on-the-dccs-provision-of-an-enrolment-service-for-edmi-smets1-meters-changes-to-dcc-electricity-and-gas-supply-licence-conditions-and-changes-to-the-sec-bscs-and-unc/>

## Summary of Responses

### **Question 5: Do you agree with BEIS' proposal to amend security obligation in relation to Telefonica UK Limited in its capacity as a SMETS1 CSP?**

32. Eight respondents replied to this question. Seven respondents agreed with our proposal with one respondent agreeing with caveats. Those who agreed concluded that due to the nature of the outlined legacy issues, the proposed amendments seem appropriate. The caveated response did, however, express a preference for Telefonica not to be named in the SEC but acknowledged that this may be unavoidable. One energy supplier, who agreed with our proposal, wished to see a summary of any legal advice that was obtained in arriving at the proposal.

### **Government response**

33. In addressing the respondent's preference for Telefonica to not be named in the SEC, we appreciate that it is unusual to name service providers within an industry code, in particular, to avoid the need for changes to the industry code should the service providers be replaced. However, the adoption of the legacy SMETS1 CSP contracts has given rise to specific and particular circumstance and in the case of Telefonica as a SMETS1 CSP, we do not consider that there is a simple way to identify Telefonica that is not tantamount to naming it. Also, if Telefonica were replaced in its role as SMETS1 CSP, we believe it would be appropriate, if possible, for the replacement supplier to meet the original obligations of the SEC and not the caveated ones and, hence, we do not wish the dispensation to apply automatically to any future provider of the Telefonica SMETS1 CSP service. We also note that it is already the case that a DCC Service Provider is mentioned by name in the Incident Management Policy (SEC Appendix AG).
34. In response to the request for legal advice that was obtained in arriving at the proposal, BEIS does not normally publish such matters.
35. Following engagement with the Security Sub-Committee (SSC), the SSC has suggested it is content with our proposed approach.

### **Conclusion**

36. In view of the broad support for the proposed change, we intend to amend security obligations in relation to Telefonica UK Limited in its capacity as a SMETS1 CSP.

## Summary of Responses

### **Question 6: Do you agree with the proposed formulation of wording which sees "promptly" replaced with "as soon as is reasonably practicable" in the case of a Major Security Incident to the SMETS1 CSP system where Telefonica UK Limited is the DCC Service Provider?**

37. Eight respondents replied to this question. Five respondents agreed with BEIS' proposal and three respondents agreed with caveats. Those who agreed concluded that due to the nature of the outlined legacy issues, the proposed amendments seem appropriate. The three caveated responses raised differing issues, including that the remaining obligations on the DCC to 'promptly' notify the Panel and SSC should remain; that the proposed approach should remain under the review of SSC; and that the time period for what is "as soon as reasonably practicable" in comparison to "promptly" should be clarified by BEIS.

## **Government Response**

38. We agree that the relaxation of the obligation on the DCC to 'promptly' notify the Panel and SCC, following notification of a Major Security Incident should apply only to Telefonica as a SMETS1 CSP. We also agree that this particular matter should remain under review. We suggest that should any such incident arise, the DCC should discuss the matter with the SSC and, if it is considered necessary, a SEC modification seeking to address any issues should be brought forward at that time.
39. In response to one supplier's request that BEIS clarify the difference in nuance between "as soon as reasonably practicable" and "promptly", BEIS advises that the reason for this change is to pragmatically accommodate the arrangements that DCC has been able to put in place when adopting a legacy service. It is not based on whatever the fine legal distinction between the two terms might be.

## **Conclusion**

40. In view of the broad support for the proposed formulation of wording which sees "promptly" replaced with "as soon as is reasonably practicable" in the case of a Major Security Incident to the SMETS1 CSP where Telefonica UK Limited is the DCC Service Provider, we have decided to proceed with the amendments to Section G2.11 of the SEC as proposed. Subject to the completion of Parliamentary process, the amendments will come in to force around mid-September 2020.



### **3.4 Licence and SEC amendments to support standalone auxiliary proportional controllers (as well as associated changes relating to Additional Meters within the smart meter arrangements)**

#### **Summary of Issue and Proposals**

##### Proportional Load Control Policy Background

41. In August 2019, we proposed to add proportional load control functionality to the Smart Metering System (SMS) to build on the existing load control functionality provided by Auxiliary Load Control Switches (ALCs) and HCALCs<sup>8</sup>. Unlike HAN connected auxiliary load connection devices (HCALCs) and ALCs, which only provide binary levels of load control (on or off), proportional load control functionality offers multiple levels of control through the introduction of Auxiliary Proportional Controller (APC) functionality into existing Electricity Smart Meter Equipment (ESMEs) as well as Standalone APCs (SAPCs). The technical specifications for proportional load control functionality – for ESME APCs and SAPCs – have been baselined at the Smart Metering Implementation Programme's (SMIP) Technical Business Design Group (TBDG). Today, we have also issued a consultation on DLV versions of these technical specifications which are planned to be incorporated into the SEC in September this year.<sup>9</sup>

##### April 2020 Licence and Code Proposals

42. Our consultation in April 2020<sup>10</sup> proposed amendments to Electricity and Gas Supply Licences, the SEC and the DCC Licence to prepare for the designation of the technical specifications for APC functionality which are planned to be incorporated into the SEC in November this year. The consultation also published an update on the treatment of HCALCs to constrain the installation of load control devices that do not have a valid IVP.

43. Unlike HCALCs, SAPCs are not joined to the ESME but to the Communications Hub. This means that, unlike HCALCs, SAPCs are not automatically associated with the same Meter Point Administration Number (MPAN) as the ESME. As MPANs are used as a security control on Change of Supplier (CoS) events, without the proposed regulatory amendments, it may not be possible for the SAPC to be transferred with the rest of the SMS on a CoS event. To provide clarity and prepare for the designation of the

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<sup>8</sup> <https://smartenergycodecompany.co.uk/latest-news/beis-consultation-on-proportional-load-control-and-associated-smets-drafting/>

<sup>9</sup> [https://smartenergycodecompany.co.uk/latest\\_news/](https://smartenergycodecompany.co.uk/latest_news/)

<sup>10</sup> <https://smartenergycodecompany.co.uk/latest-news/beis-consultation-on-the-dccs-provision-of-an-enrolment-service-for-edmi-smets1-meters-changes-to-dcc-electricity-and-gas-supply-licence-conditions-and-changes-to-the-sec-bscs-and-unc/>

technical specifications, we proposed to place additional requirements on the treatment of SAPCs and Additional ESMEs. This means broadly that SAPCs and Additional ESMEs, where installed and where they are HAN connected, must be commissioned within DCC systems so that they are associated with an MPAN affiliated with the premises at which they are installed, and that the gaining supplier must take over any SAPC/Additional ESME on a CoS event.

## **Summary of Responses**

### **Question 7: Do you agree that SAPCs and Additional ESMEs should be Commissioned within DCC Systems (so that they are associated with an MPAN)?**

44. There was broad support for the proposal from the seven respondents. Five respondents fully agreed with the proposal, two respondents agreed broadly but suggested that access to SAPC devices should also be given to non-supplier parties, for example, distribution network operators (DNOs).

## **Government Response**

45. In its response to its August 2019 consultation on Smart Metering System Proportional Load Control, BEIS confirmed that an override functionality will be included in the specification as a future proofing measure to allow the potential for proportional load control devices to act on load control messages from a user other than a supplier. However, this override functionality will remain dormant until industry, Ofgem and/or government determines it desirable or necessary following further consultation. Appropriate governance requirements would need to be in place and further DCC changes (e.g. to DCC User Interface Specification [DUIS] and DCC User Interface Service Schedules [UISS]) would need to be made before the override functionality could be enabled.

## **Conclusion**

46. In view of the broad support for HAN connected SAPCs and Additional ESMEs to be Commissioned with DCC Systems (so that they are associated with an MPAN), we conclude that we will proceed with the proposal. Subject to the completion of Parliamentary process. The amendments to electricity and gas supply licences and the SEC have been laid in Parliament on 18 June 2020 and would come into force around mid-September 2020. However, these proposals are reliant upon the DCC's November 2020 system change release. BEIS therefore proposes to hold back on the designation of the supporting Technical Specifications and SEC Subsidiary Documents (SSDs) until November 2020 to align with the DCC's November 2020 SEC Release.

Further information on these SSDs is provided in our 18 June 2020 consultation published alongside this consultation response document<sup>11</sup>.

## Summary of Responses

### **Question 8: Do you agree that the MPAN should relate to the supply of energy at the premises in which they are installed (so that they can transfer to the incoming energy supplier on churn)?**

47. Most respondents supported this proposal: five respondents fully supported it, one agreed with caveats and two raised concerns. The caveated response questioned the risk of ESMEs being mistaken during a CoS event and suggested that it should be up to the incoming supplier during a CoS event to determine whether to continue to support the SAPC. Concerns were also raised that the proposed changes impose a responsibility on the incoming supplier to maintain that device.
48. Concerns raised by respondents included an increased number of disputes between Meter Asset Providers (MAPs) and suppliers around meters being removed from an MPAN, multiple MAPs claiming the same MPAN or MAPs incorrectly claiming ownership over an MPAN, due to the way in which MPANs are used by MAPs to track meter assets.
49. The final issue raised by respondents was whether non-supplier parties would be given the ability to control Export.

## Government Response

50. In response to the query around the risk of ESMEs being mistaken at CoS, BEIS's view is that it will be possible for an incoming supplier to differentiate between the primary meter and the SAPC or ESME with APC functionality given that those devices have a different ESME variant in the DCC Smart Metering Inventory. It will also be possible to ascertain which is the primary meter by comparing consumption readings.
51. In response to the same respondent's suggestion that it should be up to the incoming supplier to determine whether to continue to support the SAPC, and that the proposed changes impose a responsibility on the incoming supplier to maintain that device, BEIS confirmed in its response to its August 2019 consultation on Smart Metering System Proportional Load Control that any gaining supplier would need to support the new DCC Service Requests if it wished to be able to manage load through an SAPC device on CoS<sup>12</sup>. However, there would be no obligation for that supplier to do so and should it

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<sup>11</sup> <sup>11</sup> [https://smartenergycodecompany.co.uk/latest\\_news/](https://smartenergycodecompany.co.uk/latest_news/) - consultation not published at time of writing

<sup>12</sup> <https://smartenergycodecompany.co.uk/latest-news/beis-response-to-consultation-on-proportional-load-control-and-associated-smets-drafting-new-consultation-on-gbcs-and-chts-drafting/>

decide to not implement the new Service Requests, the SAPC calendar entries would simply remain the same as the last ones set by the outgoing supplier.

52. As mentioned, another respondent was concerned that this proposal would lead to an increase in the number of disputes between MAPs and suppliers. However, as suggested by the respondent, SEC Mod 11 was raised by industry to attempt to resolve this issue by proposing to include the MAP ID in the Smart Metering Inventory. It was later rejected by the SEC Change Board on the basis that it will not facilitate the efficient provision, installation and operation of Smart Metering Systems. BEIS' view is that it is therefore industry's responsibility to address this risk by whatever means it feels necessary.
53. In response to the query around whether non-supplier parties would be given the ability to control Export, in its response to its October 2019 consultation on technical specification changes to support proportional load control functionality, BEIS agreed that making changes to the technical specifications to enable proportional control of Export in addition to Import would be beneficial and made additions to the SMETS2 and GBCS to allow that. However, this capability can only be exercised by the Responsible Supplier and although DNO override functionality has been introduced in devices, currently there is no capability to allow non-supplier parties to use that functionality and therefore control Export.

## **Conclusion**

54. In view of the broad support for the proposal that the MPAN relating to the supply of energy at the premises should be configured on SAPCs and Additional ESMEs where they are installed and HAN connected (so that they can transfer to the incoming energy supplier on churn), BEIS has decided to proceed with its proposal. Subject to the completion of Parliamentary process, the amendments to electricity and gas supply licences and the SEC will be laid in Parliament on 18 June 2020 and will come in to force around mid-September 2020. However, these proposals are reliant upon the DCC's November 2020 system change release. BEIS therefore proposes to hold back on the designation of the supporting Technical Specifications and SSDs until November 2020 to align with the DCC's November 2020 SEC Release.
55. We have also made a change to the SEC definition of Smart Metering System to clarify that any SAPC or Additional ESME joined to a Communications Hub Function (CHF) is considered to form part of the electricity Smart Metering System of which that CHF forms part and have updated the definition of "Device" to add SAPCs to the list.

## Summary of Responses

### **Question 9: Do you agree that the security credentials on SAPCs and secondary ESMEs are those of the Responsible Supplier for the premises (so that the Responsible Supplier is the one that has control over the devices)?**

56. Five of the ten respondents wholly agreed that the security credentials on SAPCs and secondary ESMEs should be those of the Responsible Supplier for the premises. However, two respondents, who agreed with the overarching principle that the Responsible Supplier should retain liability for the security credentials on SAPCs and secondary ESMEs, supported the need to allow non-supplier parties such as DNOs to be able to control SAPC devices, and therefore raised concerns around security credentials on SAPCs and secondary ESMEs being limited to those of the Responsible Supplier. Three other respondents requested a clarification around the policy intent to allow parties other than the Responsible Supplier to control SAPC devices.
57. One respondent added that the override capability introduced by BEIS should not be limited to smart charging devices and that the consumer should have the capability to choose which devices may be controlled by non-supplier parties.
58. Another respondent, who believed that the proposal benefits consumers, raised a concern that this proposal would be detrimental to landlords and other parties who are operating secondary ESMEs as the Responsible Supplier would have control over those secondary ESMEs which are not owned by that supplier.
59. A further respondent mentioned that if an energy consumer switched to a supplier that does not support APC functionality and therefore does not update the security credentials, then it is unclear whether the outgoing supplier will retain control over the installed SAPC device.

## Government Response

60. In addressing the concerns raised by the two respondents around the security credentials on SAPC devices and secondary ESMEs being limited to those of the Responsible Supplier, BEIS confirmed in its response to its August 2019 consultation that an override functionality will be included in the specification as a future proofing measure to allow the potential for proportional load control devices to act on a message from a user other than a supplier to curtail load<sup>13</sup>. However, this override functionality will remain dormant until industry, Ofgem and/or Government determines it desirable or necessary following further consultation.

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<sup>13</sup> <https://smartenergycodecompany.co.uk/latest-news/beis-response-to-consultation-on-proportional-load-control-and-associated-smets-drafting-new-consultation-on-gbcs-and-chts-drafting/>

61. In response to the respondent who suggested that override capability should not be limited to smart charging devices and that the consumer should have the capacity to choose which devices may be controlled by non-supplier parties, as confirmed above, an override functionality has been included to allow control of SAPCs by non-supplier parties although there is no capability to allow this now.
62. To the respondent who suggested that the proposal would be detrimental to other parties operating secondary ESMEs, to clarify, the security credentials on a secondary ESME would be those of the Responsible Supplier for the premises only if that secondary ESME were connected to the HAN. Therefore, the proposed obligation would not apply in the situation where a landlord or other party was operating a secondary ESME – e.g. a combined smart meter on a sub-circuit – which was not connected to the HAN.
63. Finally, in clarifying what will happen when an energy consumer switches to a supplier that does not support APC functionality, although energy suppliers are not obligated to make upgrades to support APC functionality, we proposed an obligation for suppliers to update the security credentials, in particular on CoS. Therefore, any gaining supplier would take control over an installed SAPC device, even though this does not imply that the gaining supplier would necessarily be able to operate load control on that APC device (as it would need to support APC functionality and associated Service Requests). Consequently, the outgoing supplier would lose the ability to control the SAPC device.

## **Conclusion**

64. In view of half the respondents fully supporting BEIS' proposal that the security credentials on HAN connected SAPCs and Additional ESMEs are those of the Responsible Supplier for the premises, and having considered the remaining concerns or queries from respondents, BEIS has decided to proceed with its proposal. Subject to the completion of Parliamentary process, the amendments to electricity and gas supply licences and the SEC will be laid in Parliament on 18 June 2020 and will come in to force around mid-September 2020. However, these proposals are reliant upon the DCC's November 2020 system change release. BEIS therefore proposes to hold back on the designation of the supporting Technical Specifications and SSDs until November 2020 to align with the DCC's November 2020 SEC Release. This is explained further in BEIS's subsidiary document consultation which has also been published today and which includes a description of the proposed regulatory modifications between January 2020 and November 2020.

## Summary of Responses

### **Question 10: Do you agree that installed SAPCs and HCALCs should meet a SMETS Version with a current Installation Validity Period (IVP) and to subsequently be maintained to meet a Version of SMETS with a current MVP?**

65. Government would like to clarify that Question 10 was intended to be about SAPCs only, as HCALCs are the focus of Question 11.
66. The majority of respondents (five out of eight) agreed with the proposal that installed SAPCs and HCALCs should meet a SMETS version with a current IVP and to subsequently be maintained to meet a version of SMETS with a current MVP.
67. One respondent asked whether BEIS intends to put this proposal in place at the same time as re-designating Technical Specifications with DLV applied.
68. Another disagreed with the proposal believing that it would create additional risks on energy suppliers, who would need to manage their ordering profiles and stock inventory of SAPCs and HCALCs against IVP deadlines, or alternatively risk stock obsolescence which would increase costs borne by the end consumer. The same respondent also raised a concern around the proposal on the introduction of MVP deadlines. If, for instance, a consumer were to switch their supply to an energy supplier which does not operationally support SAPCs and the MVP end date passes, and the consumer then initiates a subsequent CoS to another energy supplier which does support SAPCs, then this second supplier would not be able to maintain the installed SAPC device.
69. Another respondent mentioned that it is not clear how SAPC devices would be maintained in line with most recent firmware versions e.g. via Over-the-Air (OTA) firmware updates. The respondent added that the approach to maintaining SAPC devices should be clarified before they could agree that installed SAPCs and HCALCs should meet a SMETS version with a current IVP and be subsequently maintained to meet a version of SMETS with a current MVP.

## Government Response

70. In response to the query around whether BEIS intends to put this proposal in place at the same time as re-designating Technical Specifications with DLV applied, BEIS would like to clarify that although it intends to implement this proposal at the same time as Technical Specifications are re-designated with DLV applied, SAPC functionality will not be capable of being accessed until the November 2020 Release when additional SEC Subsidiary Document (SSD) changes come into effect.
71. In response to the comment that the proposal would increase pressure on energy suppliers to manage their stock of HCALCs and SAPCs against IVP deadlines, BEIS is of the view that SAPC and HCALC functionality is

important from a security perspective, that the proposal should be implemented, and that suppliers need to manage their stock levels accordingly. However, any proposal to apply end dates will be consulted upon prior to implementation to afford energy suppliers the opportunity to influence that decision.

72. In response to the comment that an MVP deadline risks installed SAPC devices not being maintained following CoS to an energy supplier that does not support SAPCs, BEIS' position is that the risk of an MVP being terminated is very low as this would not be done lightly (only if for instance it would be associated with a material security issue). If, however, an MVP were terminated, it would be the responsibility of the responsible supplier to upgrade the device to comply with a Version of SMETS with a current MVP even though they do not support SAPC load control functionality. The Responsible Supplier has the capability to upgrade the firmware on an SAPC, which is the equivalent of an ESME, even if they do not more generally have the capability to use SAPC load control functionality.
73. In response to the query around how SAPC devices will be maintained, BEIS would like to confirm that firmware on SAPC devices will be managed in the same way as ESMEs are managed currently.

## **Conclusion**

74. In light of the majority of respondents supporting BEIS' proposal that installed, HAN-connected SAPCs should meet a SMETS Version with a current IVP and to subsequently be maintained to meet a Version of SMETS with a current MVP and having considered the concerns or queries from respondents, BEIS has decided to proceed with its proposal. Subject to the completion of Parliamentary process, the amendments to electricity and gas supply licences and the SEC will be laid in Parliament on 18 June 2020 and will come in to force around mid-September 2020. However, these proposals are reliant upon the DCC's November 2020 system change release. BEIS therefore proposes to hold back on the designation of the supporting Technical Specifications and SSDs until November 2020 to align with the DCC's November 2020 SEC Release. BEIS notes that in making the SEC changes to incorporate the SAPC-related drafting, we have additionally amended the list of Devices in H6.2 to include SAPCs. This was a prior omission from the original proposed drafting.

## **Summary of Responses**

**Question 11: Do you agree that installed HCALCS should meet a SMETS Version with a current Installation Validity Period (IVP) on install and subsequently be maintained to meet a Version of SMETS with a current MVP?**



75. BEIS would like to clarify that Question 10 was intended to be about SAPCs only, while the question on HCALCs was supposed to be present in Question 11 only.

76. Six out of eight respondents agreed with the proposal that installed HCALCS should comply with a version of SMETS with a current IVP and to subsequently be maintained to comply with a version of SMETS with a current MVP. Two respondents pointed out that there was an aspect of duplication with Question 10.

### **Government Response**

77. As mentioned above, this question was intended to be specific to HCALCS. Nevertheless, responses pertaining to both HCALCs and SAPCs were captured in Question 10.

### **Conclusion**

78. In light of the majority of respondents supporting BEIS' proposal that installed HCALCs should comply with a version of SMETS with a current IVP and to subsequently be maintained to comply with a Version of SMETS with a current MVP and having considered the concerns or queries from respondents, BEIS has decided to proceed with its proposal.

79. Subject to the completion of Parliamentary process, the amendments to electricity and gas supply licences and the SEC will be laid in Parliament on 18 June 2020 and will come in to force around mid-September 2020. However, these proposals are reliant upon the DCC's November 2020 system change release. BEIS therefore proposes to hold back on the designation of the supporting Technical Specifications and SSDs until November 2020 to align with the DCC's November 2020 SEC Release.

### 3.5 Matters relating to inclusion of registration data identifiers within XML certificates

#### Summary of Issue and Proposals

80. In January 2020, BEIS consulted<sup>14</sup> upon proposals to introduce a new type of Organisation Certificate for Users – an “Extensible Market Language (XML) signing Certificate<sup>15</sup>.” BEIS’ rationale for this was to support additional security processes that will be implemented alongside the Enduring Change of Supplier (ECoS) arrangements in 2022. Respondents were broadly supportive and BEIS concluded in March that proposals to introduce XML signing Certificates should be progressed. In light of the broad support for the introduction of XML signing Certificates in the January 2020 consultation, BEIS proposed additional key elements of the design in its April consultation – namely, the inclusion of Registration Data identifiers of energy suppliers within the Certificate to establish a cryptographically assured relationship between Registration Data identifiers and supplier parties<sup>16</sup>. This relationship would be relied upon when the DCC carries out checks as part of processing Service Requests associated with change of supplier events under the ECoS arrangements. Introducing this functionality this year would give energy suppliers the opportunity to use them as they update their Organisation Certificates in advance of ECoS arrangements taking effect and for any issues over ownership of Registration Data identifiers by energy suppliers to be resolved.
81. Should disputes arise over the allocations of Registration Data identifiers, the consultation proposed that these would be determined by the SEC Panel with right of appeal to the Authority and that the BSC and UNC would require administrators of these codes to support the SEC Panel in any necessary investigation.
82. As changes to the Organisation Certificate Policy (SEC Appendix B), the SMKI Registration Authority Policies and Procedures (SEC Appendix D) and the SMKI Interface Design Specification (SEC Appendix M) are required to support these proposed arrangements, the April consultation also consulted on amendments to these SSDs to support the functionality set out in the Licence and Code modification proposals. The proposed changes to the Organisation Certificate Policy would permit the relevant field in an XML signing Certificate issued to an energy supplier to include Registration Data

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<sup>14</sup> <https://smartenergycodecompany.co.uk/latest-news/consultation-on-changes-to-standard-conditions-of-gas-and-electricity-supply-licenses-conditions-of-the-dcc-licence-the-sec-the-unc-and-the-mra/>

<sup>15</sup> An XML signing Certificate is an Organisation Certificate with the newly proposed Remote Party Role of ‘xmlSign’.

<sup>16</sup> <https://smartenergycodecompany.co.uk/latest-news/beis-consultation-on-the-dccs-provision-of-an-enrolment-service-for-edmi-smets1-meters-changes-to-dcc-electricity-and-gas-supply-licence-conditions-and-changes-to-the-sec-bscs-and-unc/>

identifiers. The proposed changes to the SMKI RAPP explain what checks the Registration Authority must apply to Certificate Signing Requests (CSRs) for XML signing Certificates from energy suppliers. The proposed changes to the SMKI Interface Specification set out the revised detail of how the relevant CSRs should be constructed. Unfortunately, an administrative oversight meant that the proposed drafting amendments to these particular SSDs were not included with the consultation. BEIS has now published these modifications as part of its 18 June 2020 consultation<sup>17</sup>.

## **Summary of Responses**

### **Question 12: Do you agree that XML certificate types should be populated with Registration Data identifiers?**

83. There were eight responses to this question. There was broad agreement amongst respondents that XML certificates should be populated with Registration Data identifiers with one respondent agreeing fully with the proposal, three agreeing with caveats, three neutral responses, and one respondent who disagreed with the proposal. The three respondents who agreed with caveats suggested that the timing around when certificates are revoked from Parties without a licence will need due consideration; that drafting proposal to accommodate SEC Panel's initiatives on Supplier of Last Resort (SoLR) should be published as soon as possible; and that further detail on the implementation approach for such changes e.g. the timing of the change and anticipated impact it will have on Parties should also be published.
84. Of the three neutral respondents, two did not have material points to raise and one sought clarification on the name 'Registration Data' identifiers, finding the terminology confusing.
85. The supplier which disagreed with BEIS' proposal did so on grounds that it did not understand the rationale for the proposed modification due to the way in which existing certificates already hold an EUI which the Data Service Provider (DSP) links to SEC Parties and Registration Identifiers. The supplier also sought clarification on whether 'Unique Identifier' equated to what is referred to as a Registration Data identifier in the April consultation document. The supplier argued that if only a single Registration Data identifier may be linked to a single certificate then, as a minimum, suppliers would need to have separate certificates for gas and electricity, adding to the complexity of the proposed solution.

## **Government Response**

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<sup>17</sup> <sup>17</sup> [https://smartenergycodecompany.co.uk/latest\\_news/](https://smartenergycodecompany.co.uk/latest_news/) - consultation not published at time of writing

86. In response to the suggestions around further amendments to the drafting being required to accommodate the SEC Panel's initiatives on SOLR and that the timing around when certificates are revoked from Parties without a licence need consideration, BEIS believes that these matters should be addressed as part of the SEC Modification to address Supplier of Last Resort.
87. One supplier sought an overview of the anticipated impacts the proposed change will have on Parties. The proposal in its present form is optional for suppliers, although BEIS intends for the inclusion of Registration Data in the certificate to be progressed as part of Enduring Change of Supplier (ECoS) changes, and envisages that Private Keys that have associated Public Keys in XML signing Certificates will under the ECoS arrangements be required to be used to sign CoS Update Security Credentials Service Requests. We also note that through draft Modification Proposal DP104 the Security Sub-Committee is seeking to require Users to use Private Keys associated<sup>18</sup> with XML signing Certificates to Digitally Sign Service Requests and Signed Pre-Commands.
88. In response to the confusion around the terminology of Registration Data identifiers, the "Unique Identifiers" we are referring to are those mentioned in SEC Paragraph B1.21 as well as in the Schedule to the SEC Framework Agreement<sup>19</sup> and in SEC Schedule 5. The relevant identifiers are listed under the heading "Unique Identifiers" in the Party Details spreadsheet maintained by SECAS<sup>20</sup> and available on the SECAS website. Ultimately, these identifiers are assigned and maintained under the BSC/MRA and UNC and are used to identify Suppliers in the gas and electricity Registration Data.
89. In response to the supplier who disagreed with BEIS' rationale for populating XML signing Certificates with Registration Data identifiers on the grounds that existing certificates already hold an EUI which the Data Service Provider (DSP) links to SEC Parties and Registration Identifiers, BEIS asserts the rationale behind this optional proposal is to prepare for the introduction of an enhanced cryptographic solution when ECoS reforms are introduced. We currently plan to consult on these ECoS proposals in 2021. For the time being, we are not mandating the use of XML signing Certificates, nor requiring them to be populated with these identifiers. BEIS' longer term policy is to cryptographically link Registration Data Identifiers to suppliers in these Certificates. This link will be relied upon when processing 'CoS Update Security Credentials' Service Requests, rather than the current look-up table mapping these identifiers to Supplier EUI-64 IDs that is held within DCC Systems.

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<sup>18</sup> i.e. Private Keys whose associated Public Keys are contained within an Organisation Certificate with a Remote Party Role Code of 'xmlSign'.

<sup>19</sup> The SEC Framework Agreement can be found in Schedule 1 of the SEC.

<sup>20</sup> <https://smartenergycodecompany.co.uk/current-sec-parties/>

90. Regarding observations made by a supplier that existing certificates are already linked to SEC Parties, BEIS accepts that this is true. However, there is currently no cryptographic linkage between SEC Party ID and the Registration Data identifiers. The same respondent stated that if only a single Registration Identifier may be linked to a single certificate then, as a minimum, suppliers would need to have separate certificates for gas and electricity, adding to the complexity of the proposed solution. Under the proposed solution, it is possible to include up to one gas and one electricity identifier within a single certificate but any individual identifier can be included in more than one certificate of the same Supplier Party (and hence can be linked to more than one User ID of a User).

## **Conclusion**

91. Although there was general support for this proposal amongst respondents, much of this support was caveated. In light of the clarifications in this consultation response that consider respondents' queries or concerns, BEIS has decided to implement all proposed changes to Section L of the SEC (Smart Metering Key Infrastructure and DCC Key Infrastructure) as set out in the January 2020 and April 2020 consultations to introduce XML signing Certificates and enable these Certificates to be populated with Registration Data identifiers. Subject to the completion of Parliamentary process, the amendments will be made around mid-September but, as explained in BEIS' June 2020 subsidiary document consultation<sup>21</sup>, BEIS proposes to suspend their effect until November 2020 (by utilising powers laid out in Section X3.1 SEC (as preserved and modified by X1.5(iii) of the SEC) to align with the package of DCC system changes (generally referred to as the November 2020 Release).
92. In addition, in its January 2020 consultation, BEIS proposed that the Remote Party Role Code for Organisation Certificates with a Remote Party Role of "xmlSign" should be "134". The DCC has, however, indicated that it is planning that this number will be used for certificates to be issued to the Central Switching Service. We have therefore changed the proposed Remote party Role Code for XML signing Certificates to 135. This will be set out in Annex 1 of SEC Section L.

**Question 13: Do you agree that any disputes that arise over Registration Data identifiers should be determined by SEC Panel with right of appeal to the Authority?**

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<sup>21</sup> [https://smartenergycodecompany.co.uk/latest\\_news/](https://smartenergycodecompany.co.uk/latest_news/) - consultation not published at time of writing

## **Summary of Responses**

93. There were eight responses to this question. Six respondents, including the SEC Panel, agreed with the proposal whilst two respondents were neutral. No key points were made by respondents other than one respondent who, as per Question 12, sought clarity on the definition 'Registration Data' identifiers.

## **Government Response**

94. BEIS confirms that a 'Registration Data' identifier has the same meaning as 'Unique Identifier' in the current SEC Parties details held by SECAS. We have sought to clarify this further in the response to Question 12 above.

## **Conclusion**

95. In view of the broad support for any disputes that arise over Registration Data Identifiers to be determined by SEC Panel with right of appeal to the Authority, BEIS confirms it will be proceeding with its proposal.

## **Question 14: Do you agree with the proposed SEC changes and the changes to SEC subsidiary documents as set out above?**

## **Summary of Responses**

96. There were eight responses to this question. Four respondents agreed to the proposal and three were neutral. Most respondents did not have material issues to raise in response to the question. However, one supplier sought confirmation of whether a discrepancy for "Additional Electricity Smart Meter" definitions between Attachment 1 (Electricity - Condition 1 – Smart Metering Definitions) and Attachment 5 (SEC Section A) is intentional. Moreover, the respondent also recognised a typographical error pertaining to the page number count of Attachment 4 (DCC Licence).

## **Government Response**

97. BEIS thanks the respondent for bringing the typographical page numbering error to our attention. BEIS can, however, confirm that discrepancy in definitions for "Additional Electricity Smart Meter between the Electricity Supply Licence and SEC is intentional. There are a number of instances where the definition of the same term differs between the licence and the SEC. This is essentially because the terms are used for different purposes in the licence and SEC and the definitions have been tailored to the specific purpose in each document.

## **Conclusion**

98. There was broad support amongst respondents for making the proposed changes to Section L of the SEC, as set out by the consultation. Although

there was support in principle to modify SEC Appendixes B, D and M to support the introduction of XML signing Certificates, unfortunately, an administrative oversight meant that the proposed drafting amendments to these SSDs was not included with the consultation. Consequently, BEIS has published these proposed modifications as part of its June 2020 consultation, and will conclude on the drafting of the SSDs following consideration of the responses from the June 2020 consultation<sup>22</sup>.

#### **Question 15: Do you agree with the proposed changes to the BSC and UNC?**

99. There were nine responses to this question. Five respondents agreed with the proposal, one agreed with caveats and three respondents were neutral. The key point made by the agreed response with caveats was that they assumed that any changes to the UNC would also be reflected in the Independent Gas Transporters UNC (the "IGT UNC").

#### **Government Response**

100. In response to one respondent's assumption that changes to UNC would also be reflected in the IGT UNC, BEIS confirms that it does not intend to make changes to the IGT UNC: BEIS has proposed a change to the UNC to require the Central Data Services Provider (CDSP) to provide support to the SEC Panel if requested. The CDSP under the UNC also carries out activities under the IGT UNC and this is recognised in the UNC. Consequently, BEIS does not consider it necessary to extend the provisions to the IGT UNC as well.

#### **Conclusion**

101. In view of the broad support amongst respondents, and having considered the responses, BEIS concludes it will be progressing with the proposed changes to the BSC and UNC as set out in Question 15 of the consultation.

102. In light of this, we will make the following changes:

#### **BSC**

*In the Balancing and Settlement Code, in Section B: The Panel, in paragraph 3.1.2 –*

- (a) in existing sub-paragraph (m), after "Section A;" delete "and";*
- (b) in existing sub-paragraph (n), after "Section H10" delete the full stop "." and insert "; and"; and*

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<sup>22</sup> [https://smartenergycodecompany.co.uk/latest\\_news/](https://smartenergycodecompany.co.uk/latest_news/) - consultation not published at time of writing

(c) *after existing sub-paragraph (n), insert a new sub-paragraph (o) as follows –*

*"(o) providing to the Smart Energy Code Panel such information, support and assistance as it may reasonably request for the purposes of exercising its function of making a determination under either Section L3.29 or Section L.3.30 of the Smart Energy Code, and providing to the Authority such information, support and assistance as it may reasonably request for the purposes of exercising its function of deciding any appeal brought under Section L3.33 of the Smart Energy Code."*

## **UNC**

*In the Uniform Network Code, in General Terms Section D, after existing paragraph 6.2.2 insert a new paragraph 6.2.3 as follows –*

**"6.2.3** The CDSP shall provide to the Smart Energy Code Panel such information, support and assistance as it may reasonably request for the purposes of exercising its function of making a determination under either Section L3.29 or Section L.3.30 of the Smart Energy Code, and shall provide to the Authority such information, support and assistance as it may reasonably request for the purposes of exercising its function of deciding any appeal brought under Section L3.33 of the Smart Energy Code."



## 3.6 Changes to Alt HAN charging arrangements

### Summary of Issue and Proposals

103. On 17 December 2015, BEIS consulted upon the delivery model and regulatory requirements for Alt HAN. Alt HAN is the generic name given to the solution that provides an alternative Home Area Network (HAN) in premises that cannot be effectively served by a standard HAN. In the consultation document and the subsequent Government conclusions, the Government set out its policy for how Alt HAN charges should be structured, stating that Explicit Charges for Alt HAN should be levied on energy suppliers once the Alt HAN Equipment has been installed in the premises, irrespective of whether or not a Smart Metering System has been installed at the premises.
104. Through discussions with the Alternative HAN Company (Alt HAN Co)<sup>13</sup>, it came to BEIS' attention that the SEC could be clearer in setting out how the policy should be applied. As mentioned, BEIS' policy for both Point-to-Point Alt HAN Equipment and Shared Solution Alt HAN Equipment is that energy suppliers should pay for Alt HAN costs from the date that the equipment is installed, irrespective of whether there is a Smart Metering System installed in the premises at the time of Alt HAN installation. In addition, all MPANs and MPRNs within a premises where Alt HAN Equipment is installed should typically incur an Explicit Charge. However, the current SEC drafting implies that charges are only made when a Smart Metering System is installed in the premises and associated with the relevant MPAN or MPRN.
105. BEIS therefore proposed amendments to Section K of the SEC to clarify how Explicit Charges relating to Alt HAN should be incurred, i.e. that the charges should apply from the date of installation of the Alt HAN equipment, irrespective of whether a Smart Metering Systems has been installed, to all MPANs and MPRNs within a premises. BEIS also proposed changes to Section Z of the SEC to clarify the information that must be provided to DCC to support its levying of the Alt HAN related charges under the SEC. BEIS also noted that there was an in-train SEC modification (DP114) that, depending on whether it was approved and its timing, could slightly alter the detail of the legal changes that we would make.

### Summary of Responses

**Question 16: Do you agree with our proposed amendments to Sections K and Z of the SEC to clarify how Explicit Charges relating to Alt HAN should be made?**

106. BEIS received nine responses to this question. Six respondents agreed with BEIS' proposed amendments to Sections K and Z of the SEC, two agreed with the change rationale but raised questions over the interaction with SEC Modification MP114 and two respondents did not express a view.

## **Government Response**

107. We welcome the general support for our proposed changes and note that MP114 has now been implemented.

## **Conclusion**

108. In light of the responses to the consultation proposals, we will make the changes to Sections K and Z of the SEC as proposed, with a few minor adjustments to reflect the implementation of MP114. As requested by the SEC Panel, we have discussed the changes with SECAS as well as with ALT HANCo.

### **3.7: Minor Typographical Correction**

#### **Summary of Issue and Proposals**

109. There is an error in the table in Section L3.18(b) which we proposed to correct in our consultation. In the row relating to “s1SPxmlSigning”, the DCC Live Systems paragraph that is referred to should read “(h)” instead of “(g)”.

#### **Summary of Responses**

##### **Question 17: Do you agree with our proposed amendments to Section L3.18(b) to correct the typographical error relating to “s1SPxmlSigning”?**

110. There were eight responses to this question. Six respondents fully agreed with the proposed change to correct the error; one respondent agreed with the caveat that they were unclear as to what the appropriate process should be for correcting such errors, suggesting that this error could have been notified to the SEC Administrator (SECAS) and progressed through the modification process as a Fast Track modifications and that, going forward, code administrators should be given the necessary powers to progress such changes; one respondent was neutral and had no material comments on the matter.

#### **Government Response**

111. We agree that going forward it would be appropriate to correct typographical errors under the enduring SEC modifications process. In this instance, we decided to propose to correct the error because it was one that BEIS had introduced, it had come to our attention and we were proposing other wider changes at the time.

#### **Conclusion**

112. We will make the correction as proposed.

### **3.8: Other Matters**

113. We have made a number of other minor changes to the SEC in response to consultation responses received.
114. In its response to the April 2020 consultation, the DCC suggested that changes should be made to allow Users to qualify as an eligible User in a User Role without necessarily testing all Service Requests that are in principle available to Users in that User Role. This would, for example, potentially allow Users that do not wish to use SAPC functionality to be able to exit User Entry Process Testing and qualify in the User Role of Import Supplier without testing

SAPC related Service Requests. To address this, we have added a new H3.10B and new G6.4A to the SEC.

115. Furthermore, the DCC also suggested that the drafting of A2.9 be broadened out so that the definitions in any SEC Appendix could also take precedence over the definition in Section A for the purposes of that Appendix. We agree that this is a sensible proposal and will modify A2.9 accordingly.

## Appendix: EDMl SMETS1 meter enrolment Cost-Benefit Analysis

### Cost-Benefit Analysis of enrolment

1. This annex provides an explanation of the costs and benefits of enrolling EDMl SMETS1 meters into the DCC network. The analysis assesses the costs and benefits of enrolment relative to a counterfactual option.
2. In the counterfactual option, meters are not enrolled into the DCC and some customers who switch energy supplier either lose their smart services or have their meter replaced. By the end of 2021, we assume that any unenrolled EDMl SMETS1 meters will have been replaced with a new SMETS2 meter to comply with the end 2021 replacement duty. This is the same counterfactual as used for the consultation on the enrolment of Secure SMETS1 meters<sup>23</sup> but has been revised to reflect the amended SMETS1 replacement duty<sup>24</sup>.
3. In the enrolment option, meters are enrolled into the DCC. In this option, meters are assumed to become interoperable within 6 months of the point that the capability for enrolment goes live (assumed to be end of June 2021). The supplier with active meters would have 6-months to enrol before the replacement duty applies. This has a minimal impact on the cost benefit analysis. Most meters that have lost smart services on churn will regain smart services and become interoperable once these meters are enrolled. All meters that churn after enrolment are assumed to stay smart.
4. The enrolment of SMETS1 meters into the DCC network would provide a number of benefits to consumers and the energy industry. Notably, it would enable consumers to retain smart services on change of supplier and supports their engagement with the energy market. It also leverages operational cost savings for energy suppliers through a centralised service for operating all smart meters (i.e. DCC). A significant amount of the benefit of enrolment will occur from the avoided cost of meter replacements and the reduced time cost to consumers of having their meter replaced as well as benefiting from regaining smart services earlier compared to the counterfactual option.
5. As with the other SMETS1 meter sets, enrolment would lead to additional costs to the DCC to design, build, test and operate the enrolment solution,

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<sup>23</sup> <https://www.gov.uk/government/consultations/enrolment-of-secure-smets1-meters-in-the-data-communications-company-dcc>

<sup>24</sup> Consultation response making licence and code changes published on 26 March 2020. In line with procedure under Section 89 of the Energy Act 2008, the final draft legal text was laid in Parliament on 26 March 2020: <https://smartenergycodecompany.co.uk/latest-news/beis-government-response-to-consultation-on-code-and-licence-changes/>

and to energy suppliers and other organisations to implement changes to support the solution. The methodology used to derive each cost and benefit area is provided in this annex. Where it has not been possible to quantify specific costs of enrolment, a provision has been made through the inclusion of optimism bias. This also captures residual uncertainty around costs. No equivalent provision has been made for benefits that have not been quantified but these have been described qualitatively and are material in the case for enrolment.

6. The costs to develop the core functionality to support enrolment were included as part of the decision for the first four meter sets<sup>25</sup>, so they are not included in the assessment for EDMl (as also done with the Secure SMETS1 meters appraisal). This approach is in line with HM Treasury Green Book guidance, which recommends focussing on the additional costs and benefits of each decision when appraising projects.<sup>26</sup>
7. All figures presented in this annex are present values that have been discounted to 2016 using the HM Treasury Green Book social discount rate and are expressed in 2011 prices, unless otherwise stated. This is consistent with methodology for the previous assessments for the other meter sets.
8. The cost benefit analysis presented here is very similar to the one completed for Secure meters, with updated assumptions consistent with the 2019 Smart Meter Cost Benefit Analysis. Additionally, assumptions around the rate of switching, DCC costs, meter numbers, the replacement duty, assumed type of installations and the rate and point in time where meters are enrolled have been updated.

## **DCC costs**

9. DCC would incur costs to design, build, test and operate an enrolment service for EDMl SMETS1 meters.
10. Some costs form part of the core functionality required to deliver an enrolment service and would be expected to be incurred irrespective of the number and type of meters that are enrolled. These costs were included in the previous assessment for the first four meter sets and have not been re-applied. This includes:
  - Most of the DCC internal costs to deliver the SMETS1 Enrolment & Adoption programme.

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<sup>25</sup> See: <https://www.gov.uk/government/consultations/enrolment-of-smets1-meter-cohorts-with-the-data-communications-company>

<sup>26</sup> HM Treasury Green Book <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

- Most external service provider costs, such as the costs of alterations to the Data Service Provider system and most costs of the Dual Control Organisation (DCO).
11. Other costs will only be incurred when a specific meter set is enrolled. This includes, in the case of EDM1 SMETS1 meters, the cost to design, build, test and operate the solution, taking into account the changes required by the existing Smart Meter System Operator (SMSO) along with any new service providers to support a DCC service and the provision of an ongoing communications service.
  12. To inform this assessment, DCC provided an updated cost model with estimates for each of the cost categories above.
  13. Some of the costs incurred by the DCC will not be additional to the costs incurred in the counterfactual option. This includes:
    - The cost of security enhancements in the form of system hardening that energy suppliers and SMSOs would be expected to incur as part of ongoing security reviews.
    - Ongoing data and communication costs, which are currently paid to SMSOs by energy suppliers.
  14. The analysis reflects that there would be fewer meters over time in the counterfactual option due to some being replaced when a customer switches energy supplier and any unenrolled meters being replaced with SMETS2 meters by the end of 2021 in line with the licence obligation on energy suppliers to do so. When a SMETS1 meter is replaced with a SMETS2 meter it is expected that the ongoing SMSO costs for that meter would no longer be incurred.
  15. To account for the remaining uncertainty, the DCC has included optimism bias on top of its estimated costs. This has been calculated separately for each cost category by combining information on the upper bound for optimism bias recommended in the HM Treasury Green Book supplementary guidance on optimism bias with information on the mitigation actions taken by DCC that would reduce the risk of cost escalation. An initial review has been conducted on the optimism bias provided by DCC and given the high level of uncertainty on the costs it is difficult to say whether this is adequate, but comparison with estimates provided for previous meter sets suggests this is a sensible indication of enrolment uncertainties.

16. DCC's specific costs for the enrolment of EDMl SMETS1 meters are estimated to be in the range of £25-30 million.<sup>27</sup>

## **Energy Supplier Costs**

17. Energy suppliers operating EDMl SMETS1 meters in smart mode will incur additional costs to enrol these active meters which include:

- IT system changes, including to metering, billing and Customer Relationship Management (CRM) systems, to support the operation of meters via the DCC as opposed to via an SMSO.
- Testing and migration costs as part of the programme of work to enrol meters in the DCC to validate that the meters energy suppliers enrol will function as required.
- System decommissioning costs to close down legacy services.
- The cost of firmware upgrades.
- The cost of replacing any meters that cannot be enrolled.

18. At the consultation stage, the costs of IT systems changes, testing and migration, and system close down to enrol EDMl SMETS1 meters mentioned above were estimated using information collected by BEIS through an informal information request to a number of energy suppliers in 2018, prior to the specific consideration of costs relating to EDMl enrolment. The Government responses to the previous consultations on the first four meter sets and the Secure meter set allocated a portion of these costs to cover the energy suppliers that would be enrolling those meter sets. At the consultation stage for EDMl, this cost was scaled to cover the core costs to energy suppliers enrolling EDMl SMETS1 meters. For the first four meter sets and the Secure meter set, the volume of meters being enrolled was significantly higher, so this approach to estimating supplier costs was reasonable. During this consultation, however, new information was provided suggesting this cost is likely to be higher for EDMl, as there would be a minimum cost for enrolment despite the low volumes. Costs have therefore been updated using the figures provided. Energy suppliers that have dormant EDMl SMETS1 meters will only incur the core energy supplier costs mentioned in paragraph 19, with only energy suppliers with EDMl SMETS1 meters in smart mode incurring the EDMl-specific energy supplier costs described in paragraph 17 alongside the core costs.

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<sup>27</sup> Our analysis uses a central estimate provided by DCC, broken down into the areas of cost that are expected to be incurred. However, a range is reported here and throughout this document because the exact figures cannot be disclosed for reasons of commercial sensitivity.



19. In addition, all energy suppliers needing to operate gained meters via the DCC will need to implement changes to their systems, resulting in additional costs. The costs of IT and business changes to operate gained meters via the DCC were also estimated at the consultation stage for the previous four meter sets using the responses to the informal information request described above. The average cost across the five responses was used for each cost category and the costs were scaled up to cover all suppliers in the retail energy market. These costs were fully accounted for in the first four meter sets so are not included in this assessment and we received no further information to suggest these were unreasonable. This includes:
- IT changes to support enduring operation of SMETS1 meters via the DCC. This includes changes to a DCC adaptor service provider to process SMETS1 content in DCC User Interface Specification (DUIS) and Message Mapping Catalogue (MMC) and other changes to the Change of Supplier (CoS) process to identify gained SMETS1 meters and process them appropriately.
  - Business changes to ensure customer service operations can support the various meter types their customers have.
20. The cost of firmware upgrades mentioned above has been estimated by utilising the number of firmware upgrades needed to pre-configure EDM1 devices for enrolment and the cost to roll out the firmware images to relevant devices.
21. An assumption has been made that 2% of devices may fail upon migration and would require replacement to meet licence obligations. This does not reflect any certain expectation that this issue will arise. The 2% value is based on an analysis of communication performance and is consistent with our analysis for the enrolment of previous meter sets. It has been informed by the conversion rate of delivering firmware upgrades to make meters SMETS1 compliant, since any meter without a stable communications link would not be able to receive the firmware upgrade. In addition, we assume 1% of meters dilapidate each year in both the counterfactual and enrolment options.
22. Responses to the consultation on the first four meter sets identified several other cost categories, although respondents did not provide sufficient evidence that would enable these costs to be quantified. To account for these additional costs and given the uncertainty that remains around the migration and testing costs, an optimism bias uplift of 10% has been applied to all energy supplier costs.
23. The cost to energy suppliers of specifically enrolling EDM1 SMETS1 meters is estimated to be £3m (£2.9m unrounded). The cost of unenrolled devices at

the start of migration has been accounted for through a reduction in the avoided costs of replacing meters with another smart meter which is explained in the benefits section below.

### **Network operator and third-party costs**

24. In the previous consultation for the first four meter sets, it was identified that other parties that connect to the DCC will have to make changes to their systems to handle SMETS1 interaction via the DCC. In particular, network operators will need to identify differences between SMETS1 and SMETS2 devices in order to correctly interpret data returned from devices. As these costs, which are not expected to vary by meter type or number of meters enrolled, were accounted for in the previous consultation on the first four meter sets they are not applied again here.
25. A provision for the potential additional costs to third parties to distinguish between SMETS1 and SMETS2 devices has been made. These were also accounted for in the previous consultation on the first four meter sets and are not applied again here.
26. The initial outlay for Meter Asset Providers (MAPs) and the income they would have expected over the lifetime of the asset is not explicitly accounted for in this analysis because the outlay has already occurred. So, in both the enrolment and counterfactual scenarios, this cost is paid regardless. This analysis only looks at any costs that are additional. So, in this case we have only accounted for the additional cost from bringing forward the replacement of a meter in the counterfactual (i.e. the early replacement costs).

### **Total Costs**

27. The total cost for enrolling EDM1 SMETS1 meters is £28-33m, an increase of £2m from the consultation stage. The majority of the costs for enrolment are from DCC costs, which totals £25-30m once costs that are already sunk are excluded. There are £3m of supplier costs, which has increased by £2m from the consultation stage, and a small lost benefit from reduced network benefits from not replacing these meters.

### **Benefits**

28. Due to the end 2021 replacement obligation, we assume that by the end of 2021 any unenrolled SMETS1 meters will be replaced with a new SMETS2 meter. The cost of replacing meters shown in this appraisal is the additional cost of replacing meters, including the cost of capital, earlier than would be the case if they remained on the wall for their expected lifetime. EDM1 did not

offer SMETS1 gas meters at the time so only the electricity meter was replaced. For the purposes of this analysis, we assume that the majority of premises in scope are dual fuel households with a traditional gas meter. The EDM1 SMETS1 meter replacements for these households are likely to occur as part of a dual fuel installation so the cost of the installation will benefit from a dual fuel efficiency saving (i.e. the cost of replacing both meters at the same time is cheaper than changing each meter on two different visits). Half of the dual fuel efficiency saving has been allocated to the EDM1 SMETS1 meter replacement in these households, which slightly reduces the cost of meter replacements. For modelling purposes, we have assumed that meter replacements would occur at the end of 2021. This is a prudent assumption because meters would realistically be replaced spread over time before the end of 2021, which would increase the cost of replacements in the counterfactual. Meters are assumed to be enrolled over a six-month window. DCC enrolment would avoid the loss of benefits where a meter loses smart services on change of supplier, and the additional costs of meter replacements.

29. In the absence of DCC enrolment, all customers with EDM1 SMETS1 meters who switch energy supplier are assumed to lose smart services. The number of customers who lose smart services in the counterfactual option has been estimated by combining assumptions on the number of customers who switch energy supplier each year and the interoperability of those meters. Based on the latest Ofgem State of the Market report, customers are assumed to switch supplier at a rate of 20% per annum, and around a quarter of customers are assumed not to switch supplier over the course of the meter's lifetime. This analysis only considers the EDM1 SMETS1 meters remaining on the wall.
30. We assume that all customers who switch to a different energy supplier lose smart services on their EDM1 SMETS1 meter as these meters are not interoperable because other energy suppliers are unable to run these meters in smart mode.
31. In the counterfactual, for consumers who lose smart services on switching before the end 2021 replacement obligation applies, we have assumed that a small proportion have already had their meter replaced. The rate of replacement is based on data reported to BEIS by energy suppliers.
32. The avoided cost of replacing meters and value of retaining smart services have been monetised using values taken from the 2019 BEIS Smart Meter Cost-Benefit Analysis. The costs of financing meter equipment and installations have been annuitised over the lifetime of the meter and uplifted for optimism bias. The analysis draws on a range of evidence, including cost estimates provided by industry, academic studies, international comparisons

and research commissioned by the Programme into the benefits of smart metering.

33. Benefits are assumed only to be realised once enrolment capability has been provided and the meters have been migrated to the DCC system. For the purposes of this analysis we assume that DCC will release the capability for enrolment of EDM1 SMETS1 meters at the end of June 2021. Energy suppliers are assumed to enrol meters at a constant rate and complete their migration 6 months after the start of July 2021.
34. The analysis includes an estimate of the avoided time cost to consumers that enrolment provides, by avoiding the need for a meter to be replaced before the end of its lifetime. This has been calculated using relatively conservative assumptions on the time it takes for a consumer to arrange and be in for an installation and has been valued using the values of time in the Department for Transport's guidance on time valuation. This is the same method as was used in the analysis for the other meter sets and is consistent with the 2019 BEIS Smart Meter Cost-Benefit Analysis. Most of the EDM1 SMETS1 meter replacements are assumed to occur at the same time as traditional gas meter replacement so this cost is likely to be minimised, however, it has been maintained in this analysis as a prudent assumption.
35. There is a reduction in benefit from enrolment caused by the fact that only SMETS2 meters gain from certain network benefits. Additionally, as EDM1 SMETS1 meters were not installed with in-home displays (IHDs), it is assumed these meters do not benefit from energy savings and carbon and air quality benefits until they have an IHD installed. Replacing these meters with SMETS2 meters would allow them to generate these benefits. However, we have assumed an IHD would have been installed for EDM1 SMETS1 meters by the end of 2021. In the enrolment scenario fewer meters are assumed to be replaced by a SMETS2 meter as they are assumed to be enrolled and, therefore, do not need to be replaced. The network benefits, energy savings and carbon and air quality benefits per meter are consistent with the 2019 BEIS Smart Meter Cost-Benefit Analysis.
36. A number of additional benefits were identified during the consultation on Secure meters that we did not have enough information to quantify. These benefits also apply to the EDM1 SMETS1 meter set and remain unquantified:
  - a. Facilitating competition through removing barriers to switching and encouraging customers to move supplier.
  - b. Creating a single point of responsibility for the end-to-end architecture and security for meters, and any changes to these. This will enable

issues (especially those related to security) to be managed more effectively.

- c. Creating a single point of responsibility for communication with devices and management of incidents associated with those devices.
- d. Avoiding reputational damage to the Programme and consumers continuing to lose smart services on churn.
- e. Preventing customer complaints (and associated costs to manage them) resulting from customers not being able to benefit from the smart metering customer experience.
- f. Avoiding additional costs for Meter Operator Providers (MOPs) when they are needed to deliver the smart meter roll out.
- g. Providing third-party access to data to enable innovation.
- h. Additional security benefits.

37. The total benefits of enrolment are £8m, an increase of £1m from the consultation stage. The majority of this benefit is derived from the avoided cost from having to replace meters. There is a small amount of benefit derived from avoiding the loss of smart services and reduced time cost to consumers from having meters replaced. There is a small amount of lost benefit from reduced network benefits, energy savings and carbon and air quality benefits from not replacing these meters.

## Results

38. Relative to the consultation stage, the Net Present Value (NPV) has fallen by £1m to -£20-25m. A breakdown of the reasons for the change in costs is shown in Table 1 below.

**Table 1: Breakdown of the changes in the NPV from the consultation stage (2011 prices, 2016 present values, central assumptions)**

| Topic                        | Description   | Change in NPV | End NPV  |
|------------------------------|---|---------------|----------|
| <b>Starting NPV</b>          |   |               | -£19-24m |
| <b>Supplier cost updated</b> | A supplier provided us with potential costs to enrol meter set. As it is a small meter set, the proportionate approach we applied to the other meter sets does not apply here as there is likely to be a minimum cost to enrol. | -£2m          | -£21-26m |

|                                   |  |     |          |
|-----------------------------------|--|-----|----------|
| <b>Change in volume of meters</b> | The volume of meters has been revised based on updated evidence. | £1m | -£20-25m |
| <b>End NPV</b>                    |  |     | -£20-25m |

39. So, enrolment of EDM1 SMETS1 meters with the DCC is still estimated to provide an overall net disbenefit to Great Britain. This means the quantified cost-benefit analysis as set out in this annex in itself does not support a decision requiring DCC to offer enrolment services to EDM1 SMETS1 meters. A breakdown of the costs and benefits are shown in Table 2 below.

**Table 2: Detailed results of costs and benefits of enrolment (2011 prices, 2016 present values, central assumptions)**

|   | <b>£ (2011 Prices, 2016 present values, central assumptions)</b> |
|---|--|
| <b>DCC costs to design, build, test and operate the enrolment solution for EDM1</b> | £25-30m  |
| <b>Energy Supplier costs</b>  | £3m  |
| <b>Total costs</b>  | <b>£28-33m</b>   |
| <b>Avoided meter replacements</b>   | £8m  |
| <b>Avoided loss of smart services</b>   | £-0m   |
| <b>Total benefit</b>  | <b>£8m</b>   |
| <b>Net Present Value (NPV)</b>  | <b>£-20-25m</b>  |

40. The NPV shows that, to achieve the desired outcome for all consumers to have a smart meter offering smart services, replacing EDM1 SMETS1 meters with SMETS2 meters, as opposed to enrolling them, is the lower cost option.
41. On a per-meter basis, the cost of enrolment is substantially higher than the cost of installing a replacement meter.
42. The key cost affecting enrolment is the DCC costs to design, build, test and operate the enrolment solutions. Most of these costs are fixed regardless of the number of meters that are being enrolled.
43. As per Green Book guidance, only costs and benefits affected by decisions still to be made have been included. Therefore, the core DCC and supplier costs, that were included for the first four meter sets are not included here again as they are incurred regardless if EDM1 SMETS1 meters are enrolled.

44. The overall NPV is negative on quantified terms, and our view is that, even accounting for the unquantified benefits, the analysis does not support the enrolment of EDM1 SMETS1 meters.

## **Sensitivity Analysis**

45. The impact of assuming enrolment occurs over 12 months as opposed to 6 months reduces the NPV by £0.2m.
46. If only meters that are currently connected and potentially capable of enrolment are enrolled, the NPV reduces by £3m to -£23m.
47. We have run sensitivity analysis with different scenarios around delivery timescales. Under all these scenarios the Net Present Value remains negative.

## **Consumer Impacts**

48. The impact of the enrolment option on customers has been considered. A full distributional analysis is available in the 2019 Smart Meter CBA<sup>28</sup>, but specifically, enrolling these meters ensures the benefits of smart metering are available to all, whilst avoiding another installation visit to potentially vulnerable customers.

## **Cost-Benefit Analysis of replacement**

49. The alternative to the enrolment of EDM1 SMETS1 meters is the counterfactual in the analysis outlined above. This is where EDM1 SMETS1 meters are replaced with SMETS2 meters by the end of 2021.
50. The cost-benefit analysis for enrolment described in this annex supports a decision requiring EDM1 SMETS1 meters to be replaced over enrolling them. As outlined in the analysis for enrolment, replacement of meters as opposed to enrolling them into the DCC would lead to a reduced cost of £20-25m. The total cost of replacing all these meters by end-2021 has been estimated as £8m.
51. If meters are not enrolled, an energy supplier mentioned in their consultation response to the first four meter sets that they would not be able to rationalise their smart meter systems. Suppliers will have to carry on paying for a SMETS1 SMSO service and for the SMETS2 DUIS service. This will lead to an additional cost of £0.1m compared to enrolling these meters. This cost is relatively small because these meters would need to be replaced by the end

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<sup>28</sup> Smart meter roll-out: cost-benefit analysis 2019 page 67

<https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019>

of 2021 to comply with the end 2021 replacement duty. Additionally, in the enrolment option, meters are expected to enrol between July 2021 and the end of 2021 so will be incurring (although slightly reduced) SMSO charges during the same time period.

52. Customers with EDM1 SMETS1 meters would need to be re-engaged by the energy supplier earlier than the end of the meter's expected lifetime in order to arrange an installation visit to replace these meters with a new SMETS2 meter. This cost is included within the cost of replacing the meter early. Most of these customers have traditional gas meters so the supplier would need to re-engage with them at some point to replace this meter with a gas smart meter, however, this cost has been included as a prudent assumption.
53. MAPs and energy suppliers may incur contractual costs from replacing meters earlier such as premature replacement charges (PRC), while MAPs may suffer a loss of revenue. However, these costs are considered economic transfers as they transfer purchasing power from one group to another and do not involve the consumption of resources, which is consistent with Green Book guidance<sup>29</sup>. This analysis looks at the impact to society but PRCs are a benefit to the recipient and are a cost to the donor.
54. However, we have considered the impacts on MAPs and energy suppliers, including consideration of the PRCs that could arise, the impact of churn and contractual and deemed rental rates.

## **Consumer Impacts**

55. The impact of replacing these meters on customers has also been considered and the reduced overall costs – which would be expected to translate to lower consumer bills – are judged to outweigh the additional time cost to consumers of replacement. The impact on accessibility, maximising understanding, protecting customers and the impact on prepayment customers has been considered in the 2019 Smart Meter CBA<sup>30</sup> for the rollout of smart meters. The replacement of EDM1 SMETS1 meters will have similar impacts on consumers as outlined in the 2019 Smart Meter CBA because the rollout of Smart Meters involves a similar replacement of existing meters.

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<sup>29</sup> HM Treasury Green Book <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

<sup>30</sup> Smart meter roll-out: cost-benefit analysis 2019 page 67  
<https://www.gov.uk/government/publications/smart-meter-roll-out-cost-benefit-analysis-2019>



## **Sensitivity Analysis**

56. The cost of meter replacement is the additional cost of replacement before the end of the meter's working life based on meters being replaced at the end of 2021. If meters were replaced at the end of 2020, it would increase the cost of replacement as meters are replaced an extra year earlier than the end of their working life. This adds £1m the cost of replacing these meters. This means the cost of replacement would be £9m.

## **Environmental Impact**

57. The cost-benefit analysis presented in this annex takes account of the carbon and air quality impacts of device energy consumption and consumer energy savings.
58. On removing a meter, there is an assessment whether the meter can be re-used, recycled or disposed. The 2019 CBA estimates that the cost to dispose of these meters is £1 per meter. So, the cost to dispose of all EDM1 SMETS1 meters does not materially affect the relatively lower cost of replacement. Replacing a meter before the end of its working life will result in the creation of extra disposal costs, which has not been fully quantified in this analysis. There are regulations in place to reduce the amount of electronic waste – including metering equipment – going to landfill. Many parts of a meter (up to 100%) can be recycled.
59. Replacing a meter before the end of its working life will require an installation visit earlier than would have otherwise been required. This will have an environmental impact, such as the carbon emissions from the installer visiting the property to replace the meter. As the installation visit would have occurred at the end of the meter's life anyway, the environmental impact of bringing forward the visit is likely to be negligible. However, a visit would be required in the enrolment scenario to install a gas smart meter in dual fuel households, so the environmental impact would be similar in both scenarios.